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CLINICAL ISSUES

Adapted cardiac rehabilitation programme to improve uptake in patients of Moroccan and Turkish origin in The Netherlands: a qualitative study

Maurits Sloots, Edien AC Bartels, Edmond LD Angenot, Jan HB Geertzen and Joost Dekker

Aim. To explore the treatment experiences in patients of Moroccan and Turkish origin and their rehabilitation therapists regarding an adapted outpatient cardiac rehabilitation programme.

Background. Non-native patients who participated in a cardiac rehabilitation programme at a Dutch rehabilitation centre had more difficulties to achieve the treatment aims than native Dutch patients. Therefore, an adapted programme for non-native patients, lacking proficiency in Dutch, has been instigated. The programme contains six adapted treatment modules and additional strategies: adapted education regarding (1) the heart and the vascular system and (2) the use of healthy food, with use of (audio) visual educational materials, (3) adapted physical exercise module with explicit involvement of the patients' relatives, (4) standard use of professional interpreters, (5) increase in the number and length of consultations and (6) individual treatment instead of a group programme.

Design. Qualitative study.

Method. Semi-structured, face-to-face interviews were conducted with eight patients of Moroccan and Turkish origin and five native Dutch rehabilitation therapists. By comparison, three native Dutch patients were interviewed regarding the regular programme.

Results. The results indicate that the patients' disease symptoms reduced and that patients adopted lifestyle changes. Therapists experienced that the number and length of the consultations, the structural use of interpreters and (audio) visual educational materials contributed to the achievement of the treatment aims.

Conclusion. An adapted cardiac rehabilitation programme with separate modules and additional strategies for non-native patients appears to lead to satisfied patients who adopted lifestyle changes.

Relevance to clinical practice. The findings of this study are important as the study highlights the practical actions that may be taken by physicians and healthworkers to adjust rehabilitation treatment to the needs of patients of non-native origin.

Key words: heart disease, migrant health, nurses, nursing, patient satisfaction, rehabilitation, Turkish

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Introduction

Patients who have been through a coronary event, such as an acute myocardial infarction can benefit from a multidisciplinary cardiac rehabilitation programme (McAlister *et al.* 2001, Worcester *et al.* 2004), aimed at physical and psychological recovery and secondary prevention. Former research on the uptake and adherence of cardiac rehabilitation treatment regarding lifestyle changes shows that it is challenging for patients to adjust existing health behaviour and to implement these behavioural changes in daily life (Deaton 2000, Evangelista & Shinnick 2008).

Changes in health behaviour depend on intrapersonal, social and physical environmental factors (Bauman *et al.* 2002, Jenum *et al.* 2006). One of the preconditions to accomplish lifestyle changes is to have knowledge of the health-related benefits of those changes. Lifestyle changes in persons with a lower socioeconomic status and often a limited educational background seem to be difficult to accomplish (Martinez-Gonzalez *et al.* 2001, Kahn *et al.* 2002, Najman *et al.* 2006). Because many non-native patients in The Netherlands received limited education and are socially and economically disadvantaged (Veenman & Martens 1999), lifestyle changes might be difficult to accomplish. This might be because of the fact that patients of non-native origin face language difficulties (Morrow *et al.* 2006) and limited proto-professionalism (Thomas *et al.* 1999). Proto-professionalism refers to the process whereby patients gain more knowledge of causes and treatment of diseases and develop a view on cause and treatment of symptoms: this process takes place through education and easily accessible popular medical information by television, magazines and internet (Stüssgen 1997, Hilton & Slotnick 2005). This process of proto-professionalism appears to develop differently in patients of non-Dutch origin, which is potentially influenced by a lack of proficiency in the Dutch language and being brought up in a different (cultural) context and health care system.

According to Kleinman, uptake of and adherence to treatment is influenced by beliefs and behaviour of patients regarding their illness event, the diagnosis and treatment of the illness. Patients' beliefs regarding illness and treatment are incorporated into a personal explanatory belief model, which influences the understanding and subsequent use of health care programmes (Kleinman 1980, 2005). To improve the adherence to rehabilitation treatment, the explanatory model of the patient and health providers needs to match.

In the rehabilitation centre where the present study has been conducted, non-native patients, most with a lack of proficiency in Dutch, had more difficulties to achieve the

treatment aims than native patients. The patients' physical complaints did not decrease, and the methods to manage cardiac risk factors such as regular physical exercise and the consumption of healthy food were not applied after completion of the rehabilitation programme. To improve uptake, an adapted cardiac programme for non-native patients has been instigated. The aim is to improve patient participation in treatment, reduce physical complaints and improve the maintenance of healthy living habits after completion of the programme. The adapted multidisciplinary cardiac programme contains six adapted treatment modules and additional strategies for non-native patients, which are described in the Methods section.

This study aimed to explore treatment experiences in patients from Moroccan and Turkish origin regarding the adapted cardiac rehabilitation programme. Patients and their therapists were interviewed on the course and content of the adapted programme. By comparison, native Dutch patients were interviewed regarding the regular rehabilitation programme.

Methods

Design

A qualitative research method was used to explore notions and beliefs of patients and rehabilitation therapists regarding the adapted cardiac rehabilitation programme. The study was approved by the Medical Ethics Committee of Vrije Universiteit Medical Centre in Amsterdam.

Participants

Participants ($n = 11$) consisted of patients of Turkish ($n = 4$), Moroccan ($n = 4$) and Dutch origin ($n = 3$) and native Dutch physical therapists and social workers ($n = 5$). Patients were recruited from the patient population that applied for rehabilitation treatment because of their heart disease.

Inclusion criteria were (1) (a) born in Turkey or Morocco and at least one parent born in the same country, or born in The Netherlands and both parents born in Turkey or Morocco, (b) native Dutch; (2) coronary artery disease (such as status after myocardial infarction, percutaneous angioplasty or bypass) or other (congenital) cardiac disease; (3) age ≥ 18 ; (4) written informed consent.

This study focused on patients of Turkish and Moroccan origin because these patients belong to the largest groups of non-native patients in The Netherlands. Although there are cultural differences between the two subgroups of patients, the groups were too small to be presented separately. Despite the cultural differences, there are many similarities between

the groups regarding their socioeconomic circumstances and migration history. Persons from Moroccan and Turkish background in The Netherlands, who belong to the first-generation labour migrants or migrated because of family reunification, in many cases received limited education, have a comparable lower position on the Dutch labour market and live in the more deprived areas of larger cities such as Amsterdam, the capital of The Netherlands, where this study was conducted (Veenman & Martens 1999).

Potential participants were identified by surnames of Turkish, Moroccan or Dutch origin, and their origin was verified during the first consultation with the social worker. All patients of Turkish and Moroccan origin who started rehabilitation treatment in the inclusion period of this present study were included. The first three native Dutch patients who started treatment were asked to participate. Patients were informed by an information letter in their mother language and in Dutch. Subsequently, consent was obtained. Five rehabilitation therapists, consulted by the included patients, participated in the study. Three of them were physical therapist, and two were social worker.

An overview of the patients' characteristics is given in Table 1. The patients had a mean age of 56 years, ranging from 38–69 (SD 8.3). The mean duration of residence in The Netherlands was 29 years, ranging from 14–37 (SD 8.1). Two patients received no education, five primary, two secondary and two higher education. Nine of the patients were men and two were women.

Adapted and regular cardiac rehabilitation programme

The adapted cardiac rehabilitation programme contains six adapted treatment modules and additional strategies: (1) an adapted educational module regarding the heart and the

vascular system, the origin of the cardiac disease and possible lifestyle changes and risk factors such as food and smoking. The therapists involved make use of a video, which has been developed by the Dutch Heart Foundation (in Dutch and in the Moroccan Arabic language), an anatomical model of the human body and an educational picture book regarding the human body and its organs. The aim of this module is that patients learn to understand these topics and include them in their explanatory model on the origin and treatment of their disease; (2) an adapted educational module regarding the use of healthy food. The therapists involved make use of a picture book (developed by the Dutch Heart Foundation) with specific pictures of non-native food and specific eating habits of non-native patients; (3) an adapted module regarding the necessity of regular physical exercise and the continuation of this exercise after completion of the cardiac programme. Furthermore, the aim is to reduce fear in the patients' relatives and promote confidence in the physical ability of the patient; therefore, the patients' relatives are explicitly invited (orally through the patient) to attend this module; (4) regular use of professional interpreters (mostly physically present or on occasion by phone) during all treatment modules. Professional interpreters are subsidised by the Dutch authority; (5) use of more or longer consultations to explore patients' beliefs regarding their disease and to explain the origin of the disease and its treatment and (6) in contrast with the regular programme, individual rehabilitation treatment is applied. This is necessary because most patients do not speak the same language as the other patients. Furthermore, the therapists are more able to focus on the individual treatment aims of patients.

The regular programme consists of educational modules regarding the heart and the vascular system, the origin of

Table 1 Patients' characteristics

Code	Sex	Country of birth	Age	Years of residence	Language proficiency*	Education	Marital status	Children	Profession	Medical treatment
1	M	Morocco	49	33	Well	Primary	Married	Yes	Cleaner	Angioplasty
2	M	Morocco	65	34	Poor	Primary	Married	Yes	Disablement Insurance Act	Angioplasty
3	M	Morocco	38	13	Good	Higher	None	None	Snack bar employee	Angioplasty
4	M	Netherlands	46	n/a	n/a	Primary	Married	Yes	Security guard	Angioplasty
5	M	Turkey	69	36	Poor	Primary	Married	Yes	Disablement Insurance Act	Angioplasty/bypass
6	M	Turkey	60	33	Poor	Secondary	Married	Yes	Sickness leave	Bypass
7	F	Morocco	57	19	Poor	None	Married	Yes	Housewife	Angioplasty
8	M	Netherlands	57	n/a	n/a	Secondary	Married	Yes	Musician/caregiver	Angioplasty
9	M	Netherlands	60	n/a	n/a	Higher	Married	Yes	Veterinary assistant	Angioplasty/bypass
10	F	Turkey	58	27	Poor	None	Married	Yes	Disablement Insurance Act	Angioplasty/bypass
11	M	Turkey	55	37	Poor	Primary	Married	Yes	Retired construction worker	Bypass

n/a, not applicable.

*Dutch.

the cardiac disease and possible lifestyle changes, risk factors such as food and smoking, stress management, physical exercise, relaxation techniques and social aspects of having a cardiac disease. Also, individual consultations with the social worker and psychologist and education by a cardiologist were part of the programme. All programme modules of the (adapted) rehabilitation programme are given for the duration of 10 weeks. If the patient afterwards is in need for supplementary treatment, the modules may be extended.

Data collection

Semi-structured interviews were held by the executive researcher (MS). Patients and rehabilitation therapists were interviewed once at the rehabilitation centre at the end of the completed cardiac rehabilitation programme. These interviews focused on the course and content of the consultations. Ten patients gave their approval to record the interview. One patient did not want the interview to be recorded; therefore, notes were taken and verified with the patient thoroughly at the end of the interview. All therapists' interviews were recorded. Six non-native patients agreed to use a professional interpreter, and two non-native patients thought themselves proficient enough in Dutch. Different professional interpreters were used.

An ethnographic interview style was used (Bernard 1995, Hardon *et al.* 2001). The interviews were structured on the basis of a topic list (Glaser 1978). The topic list was regularly evaluated, based on the information revealed by the already administered interviews. The major subjects of the topic list were patient-provider interaction, explanatory model of the patient and therapist on health and illness, organisation of the rehabilitation programme, role of the relatives in treatment, lifestyle changes, outcome satisfaction, demographic data and personal information.

Data analysis

From the start of the data collection, an initial analysis was carried out to adjust the topics of the subsequent interviews. This interactive process of data collection and analysis is typical for ethnographic research (Spradley 1980, Bernard 1995, Le Compte & Schensul 1999). For further analyses of the interview data, the verbatim transcription of recorded interviews was used. The raw data were analysed by the executive researcher (MS) and the qualitative researcher (EB) by using a code scheme, and this primary analysis was discussed with the other researchers. Afterwards, the main themes were identified and agreed on by all authors. The final analysis and presentation was prepared by MS and thor-

oughly discussed with JD. This final analysis and presentation was verified and agreed by all authors.

The interviews were analysed using the method of constant comparison (Strauss & Corbin 1990, Boeije 2002), which is based on the inductive grounded theory method and characterised by a continual interplay between data collection and analysis to produce a theory (Strauss & Corbin 1990). The following steps were used: (1) Categorising: The text of the interview reports were categorised into text segments, according to the subjects of the topic list or new important subjects. (2) Coding: Coding was carried out by labelling text fragments with a code (a keyword), which symbolised the content of the fragment. (3) Comparing: Text fragments that had the same code were compared, to synchronise what each code implied. First, text fragments with the same code contained in one single interview were compared. Second, text fragments with the same code in different interviews involving the same group (i.e. patients or therapists) were compared. Third, text fragments with the same code in different interviews involving different groups (i.e. patients or therapists) were compared. (4) Determining: The relation between different ideas was determined by comparing ideas with the existing literature and theoretical conceptions of those ideas.

With regard to the quality indicators of the data analysis, dependability and confirmability were achieved by including multiple researchers (analyst triangulation) in the study, especially in the process of analysing the data, as described above. Furthermore, representative quotes are used to describe the experiences of patients with regard to the different themes to enhance the possibility for other researchers to judge the transferability of the findings.

Results

Explanatory model on the cardiac disease and its treatment

Patients often reported a reduced physical fitness, a reduced energy level, fatigue and being short of breath as health complaints. Almost all non-native patients knew the origin of their health complaint, and their beliefs were similar to each other, namely the blood vessels had become blocked and they had received an angioplasty or a bypass with blood vessels from their legs. There were, of course, some differences in the manner they elaborated on this subject and how much knowledge they had:

Patient-5: I had twice an angioplasty and it did not work sufficiently, my vein still was [obstructed]. So they said you need a bypass surgery, they removed veins from my legs and they placed them in my heart.

Patients mentioned smoking, fatty foods, diabetes, overweight, high cholesterol level, stress and genetic influences as potential reasons for the development of their heart disease.

Therapists reported that taking more time to explore the patient's health beliefs and using interpreters more frequently improves the understanding of the patients' explanatory model of their disease. This offers the opportunity to adapt treatment to the individual patient. The use of an educational video, in the Moroccan Arabic language, about the origin of heart diseases and lifestyle changes and an educational book with pictures of the human body and its organs contributed to a better understanding of the disease by the patient:

Therapist-4: [To have] some additional personal attention and time during the intake procedure and the extra time to explain patients how the human body functionswhat the function of the heart is [works well with these patients]...non-native patients more often have limited knowledge on how their body functions. The anatomical education lesson, which we give, is clarifying for these patients.

Native Dutch patients showed similar levels of knowledge regarding the origin of their health complaint.

Physical activity

The majority of the non-native patients in general were not used to regular physical exercise or sports before the onset of their heart disease. All non-native patients made changes in their daily physical exercise according to the advice of the rehabilitation treatment team. For example, some patients started to walk to the shopping centre more often. Another patient bought a home trainer to practice at home, and another went to a fitness programme for women of non-native origin. Patients seemed to have learned and experienced the positive effects of physical exercise:

Patient-11: I experience that sport is important, because when I feel tired and I do some [physical exercise] and I sweat and then I feel better and stronger.

Non-native patients appeared to have difficulties with staying physically active after completing the treatment programme. Half of the non-native patients reported they hoped that the physical exercise modules would have lasted longer to be able to continue with the sports activities as they had performed during treatment. They argued that the sport or fitness centres in their living environment were not of the same quality as the fitness programme in the rehabilitation centre because of a lack of suitable sports equipment and a lack of attention from a professional therapist:

Patient-6: [The therapists] told me there was a sports centre in North Amsterdam and I went there, but there were all elderly people and a little bit [disabled]. I did not like that environment. So I said: what I am able to do there, I can also do at home.

Staying physically active appeared to be negatively influenced by long holidays in the patient's country of origin. Almost all non-native patients went to their country of origin for several weeks or months after they had completed their rehabilitation programme. Therefore, continuation of their sport and physical exercise was postponed for some time.

Therapists reported that some non-native patients had difficulties with the continuation of physical exercise because of the lack of suitable facilities (e.g. sport or fitness centre suitable for persons of the same non-native origin speaking the same language) and a limited financial budget. Patients are also able to exercise at home; however, exercise in the presence of other people in a fitness centre may stimulate people to stay physically active more easily. Furthermore, most patients do not have budget to buy fitness equipment such as a home trainer, which prohibits them to exercise at home.

Native Dutch patients reported to have no problems with the continuation of sports or physical exercise. Support from family members seemed to influence their level of physical activity positively. All spouses of the native Dutch patients joined their husband in (daily) physical activities such as biking, walking or taking out the dog for a walk.

Food pattern

The majority of the non-native patients reported that they changed some aspects of their daily habits concerning food and smoking. Patients diminished the use of sugar in tea and coffee, sweets and food with a high percentage of fat. All patients who had smoked previously reported they gave up smoking. For some non-native patients, changes in food patterns seemed difficult to accomplish, especially in situations with social pressure:

Patient-5: In Turkey, I did not pay attention to what I was eating, I do not have the control there. I am not allowed to eat so much fat, which is what they told me. That is what I pay attention to and I try not to eat much salt. I try to eat according to the advice they gave me. Now and then, when I am somewhere else, then I am allowed to eat. They bring a pastry and when they offer me that, I will not say no.

One native Dutch patient also reported that changing daily eating habits is complicated:

Patient-8: Everyone in my environment says: You are able to stop smoking, but you are not able to change that stupid greedily eating?

Role of relatives

From half of the non-native patients, the relatives have not been present at the (educational) modules in the rehabilitation centre. Almost half of the relatives involved appeared to have a role as a coach for their family members, regarding the adoption of lifestyle changes:

Patient-7: My husband usually came with me. He also heard the explanation about the function of the heart. My children are informed about my complaints they explain me the given information and advised me to not stop doing sportsto absolutely stick to that.

Therapists reported it was difficult to involve relatives of non-native patients in treatment, which might have led to a limited influence on the development and maintenance of lifestyle changes.

Reasons for limited attendance of relatives of native Dutch patients appeared to be that patients did not want their relatives to be present (because they were of the opinion that it was their individual rehabilitation process), relatives had a little time available and spouses were embarrassed to talk about personal issues.

Communication and help-seeking behaviour

All non-native patients appeared satisfied regarding the communication with the treatment team, especially with the frequency of the use of interpreters:

Patient-6: Sometimes something was explained and I did not understand it. I asked it again and then an interpreter on the phone was arranged and it was explained to me.

In contrast to the patients, the therapists reported also disadvantages of using interpreters (e.g. lack of empathy of the interpreter, the interpreter being in a rush and the fact that information is translated only once at one moment in time). Some therapists reported non-native patients communicated less directly, possibly because of the politeness of these patients:

Therapist-4: Patients like [patient-11] are not so direct in their communication. They don't want to offend you. They present it in a very different way. We try to find out the underlying reasons their behaviour and to [unravel] those reasons.

Native Dutch patients appeared satisfied regarding the communication with the treatment team.

Outcome satisfaction

In general, non-native patients were satisfied with the adapted rehabilitation programme especially with the sports

modules (except the length) and with the professionalism of the therapists. All non-native patients reported their physical complaints had diminished or disappeared after completion of the programme. Patients reported reduction in fear, increasing level of energy, improvements in physical condition, more self-confidence and more lust for life.

Therapists reported the adapted programme for non-Dutch-speaking non-native patients was an improvement. However, there was still reason to further improve the adoption of lifestyle changes. Native Dutch patients were satisfied with the regular rehabilitation programme and reported their physical complaints had diminished or disappeared after the end of the programme.

Discussion

This study indicates that the adaptations of the cardiac rehabilitation programme, aimed at more appropriate care for non-native patients, lead to satisfied patients who showed understanding of their disease and adopted lifestyle changes to prevent a relapse. Non-native patients in the present study had basic knowledge of their heart disease and treatment of it and were able to reproduce this information during the interviews. This is an important finding, which seems to reflect the successful uptake of knowledge of patients during the rehabilitation programme. Therapists implied that the use of more or longer consultations, professional interpreters and (audio) visual educational materials helped the patients to better understand the origin of their disease and the necessity of lifestyle changes. The results of the present study suggest that taking part in an adapted cardiac rehabilitation programme contributes to the process of proto-professionalism. By this process of proto-professionalism, the patients' explanatory model (Kleinman 1980, 2005) regarding the treatment of heart diseases increasingly matches with the model of the care providers, which influences a more successful uptake and adherence to rehabilitation treatment.

The present study indicates that non-native patients were able to accomplish lifestyle changes such as smoking cessation and a reduction in the amount of fat and sugar in daily food. Because accomplishment of lifestyle changes is difficult (Deaton 2000, Evangelista & Shinnick 2008), the findings regarding lifestyle changes seem promising. Patients potentially were able to do this because they understood the origin of their cardiac disease and the necessity of lifestyle changes to prevent a future relapse. In contrast, changing towards more physical activity in daily life appeared to be difficult for non-native patients. Other studies in patients with heart diseases have shown that in general, lifestyle changes

regarding physical activity are more difficult to accomplish for patients than other changes (e.g. the usage of salt) (van der Wal *et al.* 2006, Macabasco-O'Connell *et al.* 2008). The present study suggests that for non-native patients, it is difficult to improve the level of physical activity, which is influenced by long holiday periods in the country of origin and a lack of suitable sport facilities. Furthermore, many older non-native patients, especially women, have not been educated in physical exercise or sports, and being physical active is therefore less common for them (Eyler *et al.* 2002, Gadd *et al.* 2005). A lack of former experience with physical exercise potentially influenced the limited increase in physical activity in these patients. In conclusion, further research is needed regarding the promotion and implementation of a higher level of physical activity in non-native patients.

Almost half of the relatives of the non-native patients were involved in the treatment programme, and some were able to support the patients with the adoption of lifestyle changes. Nevertheless, the treatment team seemed unable to involve all relatives of non-native patients in treatment. This finding is in contrast with the assumption that relatives of non-native patients are more active in taking care of ill family members, than native Dutch patients (Morée *et al.* 2002, Sturkenboom *et al.* 2007). Other studies in rehabilitation programmes reported minimal involvement of relatives in treatment too (Ven van de 2005, Sturkenboom *et al.* 2007). However, social support has been found to be associated with a higher level of self-care, e.g. regarding dietary recommendations (Wright *et al.* 2003, Wang *et al.* 2005, Sayers *et al.* 2008). If relatives are not involved and do not obtain knowledge of necessary lifestyle changes, this may act as a barrier for developing healthy behaviour for the patient (Gerards 1991). Therefore, more involvement of family members in the process of lifestyle changes is recommended in clinical practice.

An interesting result is the finding that all patients appeared to be satisfied regarding the communication with the members of the cardiac treatment team. Patients were satisfied with the frequency of using professional interpreters and the possibility to ask for further explanation if they did not understand. It is remarkable that the non-native patients, who lacked proficiency in Dutch, were rather satisfied with the communication. Patients might be prohibited to ask questions or give comments to their therapists because of their shame for a limited language proficiency (Scheppers *et al.* 2006). Besides the advantages, therapists mentioned some obstacles regarding the use of professional interpreters. Therapists are advised to learn to work with professional interpreters and to be satisfied with its possibilities to reduce the communication problems.

A strength of this study is that we included patients and allied health professionals to explore the experiences they

had with the adjusted cardiac rehabilitation programme, and we therefore were able to describe the results from these two perspectives. Furthermore, we included native Dutch patients to explore the experiences with the regular rehabilitation programme; this helped to contrast the experiences of the non-native patients. Owing to practical limitations, the sample size of this present study was small, and this potentially influenced the reliability of the study. In addition, despite careful methodological consideration, to enhance the validity and reliability of the study bias is possible. Issues that may have affected the data collection and data analyses are the personal characteristics of the researcher such as gender (male), origin (native Dutch) and personality. The use of an interpreter during the patient interviews potentially led to loss of information given by the patients compared with the more direct information from a bilingual researcher. The medical setting the interviews were held in, the rehabilitation centre, might have limited the amount of freedom patients felt in speaking about their experiences in relation to a location with less connection to the medical setting, such as the patient's home. Future quantitative research is needed to verify what the effect of the realised adaptations is on the treatment outcome in non-native patients.

Conclusion

An adapted cardiac rehabilitation programme with separate modules and additional strategies for non-native patients appears to lead to satisfied patients who adopted lifestyle changes. More improvements in the continuation of physical exercise after completion of the programme and a larger role of the patient's relatives regarding the adoption of lifestyle changes are needed.

Relevance to clinical practice

The findings of this study are important as the study highlights the practical actions that may be taken by physicians and healthworkers to adjust rehabilitation treatment to the needs of patients of non-native origin. Adapted interventions and strategies for non-native patients may increase the accessibility to rehabilitation treatment and the quality of care.

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Contributions

Study design: MS, EACB, JD; data collection and analysis: MS, EACB, JHBG, JD and manuscript preparation: MS, EACB, ELDA, JHBG, JD.

Conflict of interest

The authors declare they have no conflict of interest.

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